ABSTRACT

A system for obtaining an image of a cross-sectional surface of a workpiece includes a shaped beam ion projection column oriented along a first axis. The ion projection column projects an image of an aperture on the workpiece surface, thereby excavating a portion of the surface and exposing a cross-sectional surface. Because the ion beam is not focused on the surface, a low brightness ion source can be used. A focused particle beam column, typically a scanning electron microscope, is oriented along a second axis that intersects the first axis at a selected angle. This focused particle beam column generates a particle beam that is used to image the cross-sectional surface exposed by the ion projection column.